

The Dangers of Couching in Southwest Nigeria

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Abstract

The need to highlight the dangers to the eye and visual status in couching has become necessary in order to discourage its patronage. This was a bi-center clinic-based prospective descriptive study about new cases of couched eyes which were seen over a two-year period. Oral interviews, eye examinations, refractions, and perimetry tests were used to obtain the information. SPSS version 16 was used for the descriptive analysis. Twenty-five patients and 30 eyes of 15 (60%) males and 10 (40%) females were studied. The age range was 34–90 years with a mean age of 67.87 years (SD 11.27). Presenting versus (vs) corrected visual acuity (VA) for normal vision was 6.7% vs 23.3%, visual impairment was 16.7% vs 26.3%, and blindness was 76.7% vs 50%. A significant number still remained blind after corrections ($P = 0.014$). The most common presenting complaint was “poor/ blurred vision” in 24 (80.4%) and the most frequent duration of couching before presentation was 7–12 months (46.7%). Subjects with a cup:disc ratio > 0.6 had intraocular pressures (IOPs) of > 21 mmHg, and 50% of those patients had IOP > 40 mmHg ($P = 0.001$). Glaucoma (13.3%) and corneal opacity/retinal detachment/couching maculopathy/optic atrophy (10%) were the most common complications.

Couching causes visually-disabling complications, and is therefore strongly condemned. Increasing public awareness and putting a policy in place for affordable and accessible cataract services in government hospitals would gradually phase out its patronage.

Keywords: awareness, cataracts, complications, policy

Introduction

Age-related cataract is the most common cause of blindness in adults worldwide. In Sub-Saharan Africa, it constitutes at least 1% of the cases of blindness, and about 1.8% of blindness among people who are aged 40 years and above in Nigeria (1,2).

Couching is an ancient method of performing surgery for cataracts whereby the crystalline lens is dislocated from the central visual axis into the vitreous through the pars plana. The methods to perform this procedure include using sharp or blunt instruments, or herbal methods (3,4).

The majority of the people still undergo couching in developing countries, particularly in parts of Africa. Ignorance, fear, and the cost of surgery are the most common reasons why couching still occur (5). Other studies have also shown that those who perform couching are being patronised due to lesser costs, a more simple technique, cultural acceptance, and convenience (5,6).

However, studies have shown that the results from this procedure are usually visually devastating (5,7). This procedure is gradually fading away in China where it is referred to as “jin pi shu,” and is thought to reflect the history, culture, and political transformation of China (8).

The aim of this study was to show the adverse effects of couching on the eye and visual outcome among patients who presented to eye outpatient clinics in Osogbo, southwest Nigeria in order to further discourage people from patronising this procedure.

Materials and Methods

Osun State is located in southwest Nigeria in the tropical rain forest belt. It covers an area of approximately 14 875 square kilometers and lies between longitude 04 00E and 05°5 and latitude 05°558N and 08°07W. It has an estimated population of 3 423 535 according to the 2006 National Population and Housing Census (9). The people are mostly farmers who live in rural

communities. Specialist eye care can be obtained from two teaching hospitals and the state specialist hospital. A few privately-owned eye hospitals are also available. These clinics, which are located in the major towns, serve the surrounding four states with a minimum population of three and a half million people each.

Study design

This was a bi-center prospective study that was carried out at one of the Teaching Hospital and the State Specialist Hospital between 2009 and 2011. Consecutive new cases of couched eyes that presented to the eye clinics were seen and examined.

The consecutive new patients that were registered and seen with a history of couching without associated trauma were included in the study while those patients not registered with the clinics above with associated history of traumatic dislocated lens were excluded.

Demographic data such as age, sex, and occupation were obtained. Presenting visual acuities (VA) were checked using the illuminated Snellen's E chart. This chart was read from a distance of 6 meters one eye at a time. Those that had a VA of less than 6/9 which did not improve with a pinhole were tested with a +10 lens or with their aphakic glasses if available. Their presenting complaints were noted, anterior and posterior segment examinations were carried out using the slit lamp biomicroscope, and the presence of the dislocated lens in the vitreous was also confirmed. Dilated fundoscopy was done using the binocular indirect ophthalmoscope and the +78D panfundoscopic lens to examine the optic disc and the degree of cupping where present, and any abnormalities of the macula and retina. Intraocular pressures (IOPs) were measured using the Goldman's applanation tonometer. An IOP of 10–21 mmHg was considered normal while > 21 mmHg in a patient with CD ratio > 0.6 was identified as a glaucoma suspect. Perimetry was further done to confirm the glaucoma diagnosis. The subjects were then asked if they underwent couching to further confirm findings. They were further asked how long ago they had their eyes couched before presentation to the clinic and why couching was preferred. Only one subject had aphakic glasses so refraction was done to correct refractive errors where correctable. The corrected visual acuity was recorded and improvements in lines of the visual acuities were also noted. Patients with complications such as uveitis and secondary glaucoma were also treated.

Data management

Data was entered into and the results were analysed using the SPSS version 16 software. Summary statistics of frequencies, proportions, percentages, means, and standard deviations (SD) were derived. Cross tabulations were also performed.

Ethical consideration

Informed consent was obtained from the patients as well as ethical clearance from the ethical committee of the LAUTECH Teaching Hospital, Osogbo. The research meets their ethical guidelines, including adherence to the legal requirements of my country.

Result

Twenty-five patients with 30 eyes were examined. The age range was 34–90 years with a mean age of 67.87 years and a SD 11.27. The male to female ratio was 1.5:1.0. The age and sex distribution is shown in Table 1. The occupational distribution showed that 12/25 (48.0%) were farmers, 6/25 (24.0%) were traders, 4/25 (16.0%) were artisans, and 3/25 (12.0%) were dependants. The reasons these patients opted for couching were ignorance 10/25 (40.0%), fear of surgery 5/25 (20.0%), cost 5/25 (20.0%), nobody to accompany/take care of after surgery 3/25 (12.0%), and too old for surgery 2/25 (8.0%).

Presenting visual acuities and corrected visual acuities are shown in Table 2. After correction, 16/30 (53.3%) eyes had no improvement in lines of visual acuity, 7/30 (23.3%) eyes had 1–2 lines of improvement, 3/30 (10.0%) had 3–4 lines of improvement, and 4/30 (13.3%) had > 4 lines of improvement in visual acuity.

The number of patients with bilateral blindness at presentation was 5 (20.0%); 12 (48.0%) eyes had unilateral blindness and 8 (26.7%) eyes were visually-impaired. Only one eye 1/30 (3.3%) had exotropia while 29/30 (96.7%) were straight. There were 2/30 (6.7%) phthisical eyes. The most common presenting complaint was poor/blurred vision in 13/30 (43.4%) eyes. Table 3 contains the distribution. The mean length of time since the couching procedure before presentation was 7.9 months (SD 1.46). Almost half (46.7%) of the patients had the couching procedure 7–12 months before presentation to the clinic, as shown in Table 4.

Table 5 shows the relationship between the optic disc and IOP, where 50.0% of cupped discs were significantly associated with IOP > 40 mmHg.

Eleven eyes 11/30 (36.7%) had no complications while 19/30 (63.3%) had complications following couching (Table 6).

Discussion

The practice of couching which is an ancient method of treating cataracts appears to be common in developing countries like Asia, the

Middle East, and Africa. The Nigerian National Blindness and Visual impairment survey showed that close to half of the cataract procedures had been previously couched (2). Poorer people and those from the Northern parts of the country were more at risk of experiencing couching in Nigeria (2).

The sex distribution among the 25 subjects showed a male predominance with a ratio of 1.5 to

Table 1: Age group by gender distribution

Age group in years	Gender		Total
	Male	Female	
	n (%)	n (%)	n (%)
< 45 years	0 (0)	1 (100)	1 (4)
> 45–55 years	2 (100)	0 (0)	2 (8)
> 55–65 years	5 (62.5)	3 (37.5)	8 (32)
> 65–75 years	6 (66.7)	3 (33.3)	9 (36)
> 75 years	2 (40)	3 (60)	5 (20)
Total	15 (60)	10 (40)	5 (100)

Table 2: Presenting visual acuities by corrected visual acuities of 30 couched eyes in southwest Nigeria according to World Health Organisation categories of visual impairment

Age group in years	Corrected Visual Acuities				Total
	6/6–6/18	6/24–6/60	<6/60–3/60	<3/60–NPL	
	n (%)	n (%)	n (%)	n (%)	
6/9–6/18	2 (100)	0 (0)	0 (0)	0 (0)	2 (6.7)
< 6/24–6/60	3 (60.3)	2 (40)	0 (0)	0 (0)	5 (16.7)
< 3/60–NPL	2 (8.7)	5 (21.7)	1 (4.3)	15 (65.2)	23 (76.7)
Total	7 (23.3)	7 (23.3)	1 (4.3)	15 (50)	30 (100)

Abbreviation: NPL = No perception of light.

Table 3: Frequency distribution of presenting complaints

Presenting complaints	n (%)
Poor/blurred vision/ Inability to see	24 (80.1)
Wants to obtain glasses	3 (10)
Pain	2 (6.7)
Deviating eye	1 (3.3)
Total	30 (100)

Table 4: Range of duration of couching before presentation in 30 eyes

Duration of couching before presentation in months	n (%)
0–6	5 (16.7)
7–12	14 (46.7)*
13–18	3 (10)
19–24	5 (16.7)
31–36	2 (6.7)
49–60	1 (0.3)
Total	30 (100)

*Denotes the modal range frequency of duration of couching.

1. This was also previously observed (6,7,10).

The age range showed that young adults, middle-aged people, and the elderly all sought treatment for cataract by couching. This is very disheartening particularly in this era of several techniques and advancements in cataract surgery. Most of the subjects were farmers who often were rural dwellers with very low incomes. During the Nigerian national study of couching, researchers found that rural dwellers were more at risk of undergoing couching (11). The fact that these traditional healers lived in villages or neighborhoods with them or that they may be easier to approach appeared to aid the patronage of couching. Ignorance, which may be associated with a lack of knowledge about any other alternative method, topped the list of reasons for opting for couching, while a fear of surgery and cost were next on the list, as previously observed (5,12,13).

A significant number, appropriately 75%, presented to the clinic with one or two eyes that were blind while about 50% still remained blind even after correction ($P = 0.014$). However, the number of the blind eyes decreased so that the percentage with visual impairment increased from 16.7% to 26.7%, while there was a 17% increase in eyes with normal vision. Other studies have shown that between 96% and 100% of patients presented with blindness after couching (7,13). Couching, therefore, definitely should be discouraged no matter how cheap and convenient it may be. In another study, 52% of the respondents suggested that "health workers should come out into the villages and operate as traditional healers do" (14). This is a big challenge to our cataract services delivery system. Eye care workers in developing countries should always consider this at the back of their minds when setting up cataract services to make the services accessible to the rural populace who form the majority of people that patronise couchers.

Eighty percent of the subjects had complained of either poor vision, blurring of vision, or the inability to see clearly. This was followed by the request of wanting to wear glasses. This scenario was similarly seen in Mali. In another study, all presented with poor vision (7), whereas pain was the main presenting symptom in Ghana (15).

Squint was one presenting complaint that had never been recorded but was found in this study. Cosmetic appearance rather than poor vision was his main worry because he could see with the other eye. The squint was eventually corrected; however, the underlying optic atrophy was still present. The patient was happy with the results.

Most of the patients had their couching done between 7 and 12 months (46.7%) before their clinic visit; other patients had their procedure completed 19–24 months prior (16.7%). Three years was the longest period seen but Ademola-Popoola (7) had recorded a 10-year period before presentation. The fact that there was a wide range of duration suggested that couching complications can arise any time after the procedure. Therefore,

Table 6: Complications of couching seen in 30 eyes

Complications of Couching	n (%)
Cornea opacity/decompensation	3 (10)
Glaucoma	4 (13.3)
Retinal Detachment	3 (10)
Couching maculopathy	3 (10)
Phthisis bulbi	2 (6.7)
Squint (exotropia)	1 (3.3)
Painful blind eye	2 (6.7)
Optic atrophy	3 (10)
None	9 (30)
Total	30 (100)

Table 5: Optic discs findings by intra ocular pressure

Optic Discs	Intra ocular pressure(mmHg)					Total
	< 10	10–21	> 21–30	> 30–40	> 40	
	n (%)	n (%)	n (%)	n (%)	n (%)	
Normal	3 (15.8)	14 (73.7)	2 (6.7)	0 (0)	0 (0)	19 (63.3)
Optic atrophy	0 (0)	3 (16.9)	0 (0)	0 (0)	0 (0)	3 (10)
Cupping	0 (0)	0 (0)	1 (25)	1 (25)	2 (50)	4 (13.3)
No view	3 (75)	1 (25)	0 (0)	0 (0.0)	0 (0)	4 (13.3)
Total	6 (20)	18 (60)	3 (10.0)	1 (3.3)	2 (6.7)	30 (100)

the coucher may not have anything to do with the subjects again, he may manage the problems arising from the couching, or he may not be able to manage these complications. This is very different from planned cataract surgery where complications can be avoided by planning preventive strategies from the pre-operative period, and also by using expert skills and techniques. When complications occur intra-operatively or post-operatively, they often can also be managed very easily. The most common complications in this study were corneal opacities/decompensation, retinal detachments, and optic atrophy. These were closely followed by secondary glaucoma, blind painful eye, and phthisis bulbi. Similar results have been seen by other authors (7,12,15). The maculopathy caused by couching was referred to as "couching maculopathy" in this study. This condition could be likened to cystoid macula oedema. Omoti (5) in Benin City recorded hyphaema as another complication that may be present.

In all subjects that had a cup-to-disc ratio > 0.5 , their intraocular pressures (IOP) measured > 21 mmHg. Fifty percent had elevated IOPs > 40 mmHg which was an association that was significant ($P = 0.001$). Similarly, 25% of couched eyes had raised IOP > 21 mmHg by other workers (4).

Only one of the subjects had aphakic glasses. He presented with the intention of getting another pair of glasses since the previous pair was scratched and not clear. In contrast, some studies had no patients presenting with glasses (7,11).

It would be an understatement to say that a couched eye is as "good" as one not yet couched if there is no correction for aphakia immediately after the procedure. This is why the modern methods of cataract surgery will continue to be superior to couching because of the instant visual rehabilitation. Besides, the couching techniques have been described as painful and 93.4% of the recipients would advise others against couching (16).

Conclusion

Couching is hazardous to the eyes with attendant poor visual outcomes. Increasing public awareness through health education programs and improving community service could help to discourage the patronage of couching.

Cost-effective cataract surgeries need be encouraged by both the government and private hospitals. A policy that would put in place affordable and accessible cataract services in government hospitals is hereby advocated.

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Conflict of interest

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Authors' Contributions

Conception and design: MAI, OUK
Analysis and interpretation of the data, drafting of the article and statistical expertise: MAI, MBH
Critical revision of the article for the important intellectual content, final approval of the article and provision of study materials or patient and collection and assembly of data: MAI, MBH, OUK
Obtaining of funding and administrative, technical or logistic support: MAI

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References

1. Gilbert C, Raman U, Francis V. Vision 2020-The Right To Sight. WHO, World Blindness and its Prevention. *Int Agency Prevent Blindness*. 2005;7:245-249.
2. Abdull MM, Sivasubramaniam S, Murthy GV, Gilbert C, Abubakar T, Ezulum C, et al. Causes of blindness and visual impairment in Nigeria; Nigeria National Blindness and Visual Impairment Study Group. *Invest Ophthalmol Vis Sci*. 2009;50(9):4114-4120. doi: 10.1167/iovs.09-3507.
3. Mahmoud AO. Traditional operative couching is not a safe alternative procedure for cataract surgery in Northern Nigeria. *Saudi Med J*. 2005;8:30-32.
4. Goyal M, Hogeweg M. Couching and Cataract Extraction- A clinic based study in Northern Nigeria. *J Comm Eye Health*. 1997;10(21):6-7

5. Omoti AE. Complications of traditional couching in a Nigerian local population. *West Afr J Med*. 2005; **24**(1):7–9.
6. Schémann JF, Bakayoko S, Coulibaly S. Traditional couching is not an effective alternative procedure for cataract surgery in Mali. *Ophthalmic Epidemiol*. 2000; **7**(4):271–283.
7. Ademola-Popoola DS, Owuoye JF. Traditional couching for cataract treatment: a cause of visual impairment. *West Afr J Med*. 2004; **23**(3):208–210.
8. Chan CC. Couching for cataract in China. *Surv Ophthalmol*. 2010; **55**(4):393–398. doi: 10.1016/j.survophthal.2010.02.001.
9. Osun News Portal. *Osun State Ministry of Information and Strategy*. About Osun State (NG): Official Diary; 2012. p. 11–12.
10. Bamashmus MA. Traditional Arabic technique of couching for cataract treatment in Yemen. *Eur J Ophthalmol*. 2010; **20**(2):340–344.
11. Gilbert CE, Murthy GV, Sivasubramaniam S, Kyari F, Imam A, Rabi MM, et al. Couching in Nigeria: prevalence, risk factors and visual acuity outcomes. *Ophthalmic Epidemiol*. 2010; **17**(5):269–275. doi: 10.3109/09286586.2010.508349.
12. Mpyet C, Dineen BP, Solomon AW. Cataract surgical coverage and barriers to uptake of cataract surgery in leprosy villages of north eastern Nigeria. *Br J Ophthalmol*. 2005; **89**(8):936–938.
13. Rabi MM, Muhammed N. Rapid assessment of cataract surgical services in Birnin-Kebbi local government area of Kebbi State, Nigeria. *Ophthalmic Epidemiol*. 2008; **15**(6):359–365. doi: 10.1080/09286580802399078.
14. Meda N, Bognounou V, Seni E, Daboue A, Sanfo O. Cataract in Burkina Faso: factors of choice between modern and traditional surgical procedures. *Med Trop (Mars)*. 2005; **65**(5):473–476.
15. Ntim-Amponsah CT. Traditional methods of treatment of cataract seen at Korle-Bu Teaching Hospital. *West Afr J Med*. 1995; **14**(2):82–87.
16. Isawumi MA, Kolawole OU, Hassan MB. Couching techniques for cataract treatment in Osogbo, south west Nigeria. *Ghana Med J*. 2013; **47**(2):64–69.